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FINANCIAL COST AND MORTALITY ASSOCIATED WITH CARDIOVASCULAR IMPLANTABLE ELECTRONIC DEVICE INFECTIONS IN A CONTEMPORARY COHORT OF MEDICARE BENEFICIARIES

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Session Title: Clinical and Financial Implications of Complications
Abstract Category: 47. Appropriateness, Pay for Performance, Cost of Care
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Background: Contemporary data on the cost and long-term mortality associated with cardiovascular implantable electronic device (CIED) infections are necessary to assess the economic and clinical impact of CIED therapy, and to develop effective strategies to reduce these treatment costs. We sought to define the cost, cost allocations, and longer-term mortality associated with recent admissions for CIED infections among Medicare beneficiaries.

Methods: Using ICD-9-CM codes to screen the 2007 Inpatient Medicare Standard Analytic File, a total of 200,219 admissions for CIED generator implantation, replacement, or revision were identified, including 5,817 with infection and 194,402 without an infection. Total hospital costs were derived using department specific-hospital cost to charge ratios, and assigned to 15 cost centers. Deaths in the admission quarter and the following four calendar quarters were identified in the 2007 and 2008 Medicare Denominator File.

Results: For admissions with an infection, the mean hospital length of stay (LOS) was 14.4-19.6 days and the mean total cost was $31,149-$55,003, depending on the CIED type. This corresponds to incremental increases of 9.6-15.0 days and $16,851-$25,582 per admission, compared to admissions without infection. Three cost centers accounted for two-thirds of this incremental cost: Intensive care, Routine care, and Pharmacy. The in-hospital mortality with infection was 4.7-11.5%, depending on the CIED type, which was 8.4- to 11.6-fold the mortality without infection. Mortality during the admission quarter and following year was 24-33% for infected patients, depending on the CIED type, which was approximately 2-fold the mortality for non-infected patients. More than one-third of this excess mortality occurred after hospital discharge.

Conclusions: Hospitalization for CIED procedures associated with infection is associated with significant, device-dependent, incremental increases in LOS, cost, in-hospital mortality, and longer-term mortality, compared to admissions for similar CIED procedures without infection. Remarkably, more than one third of the excess mortality occurs after hospital discharge.